

Fig. 1A

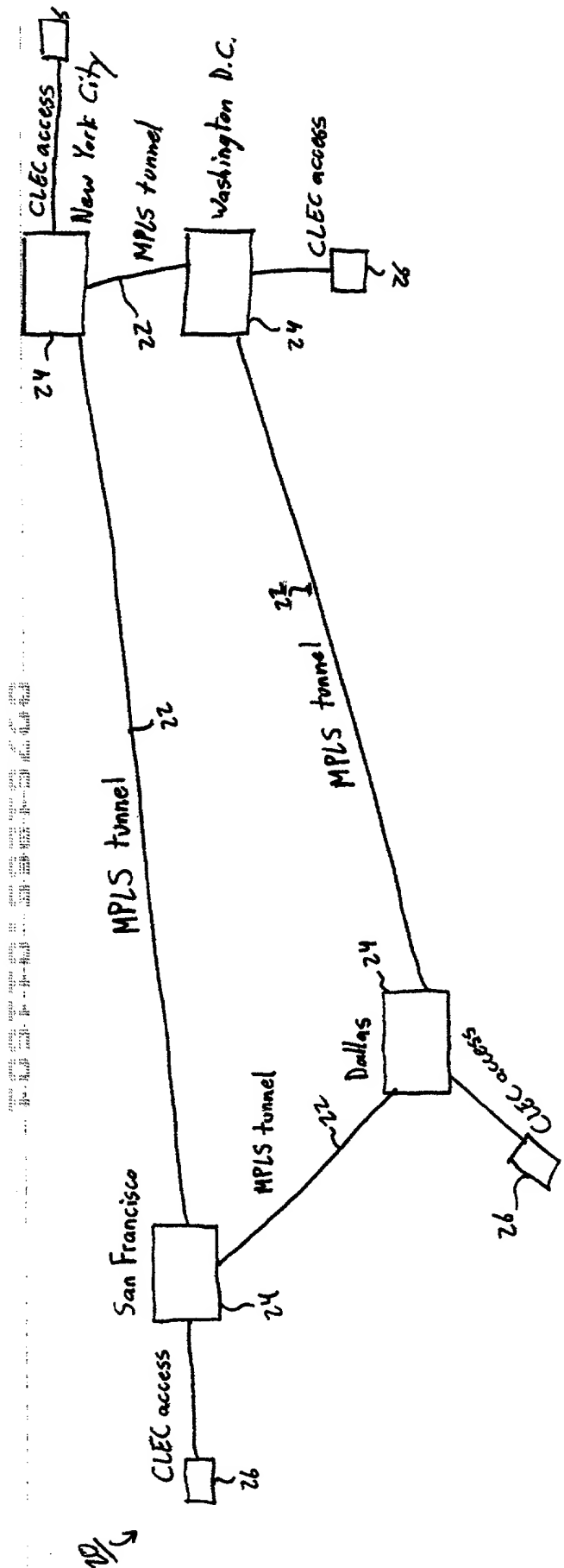
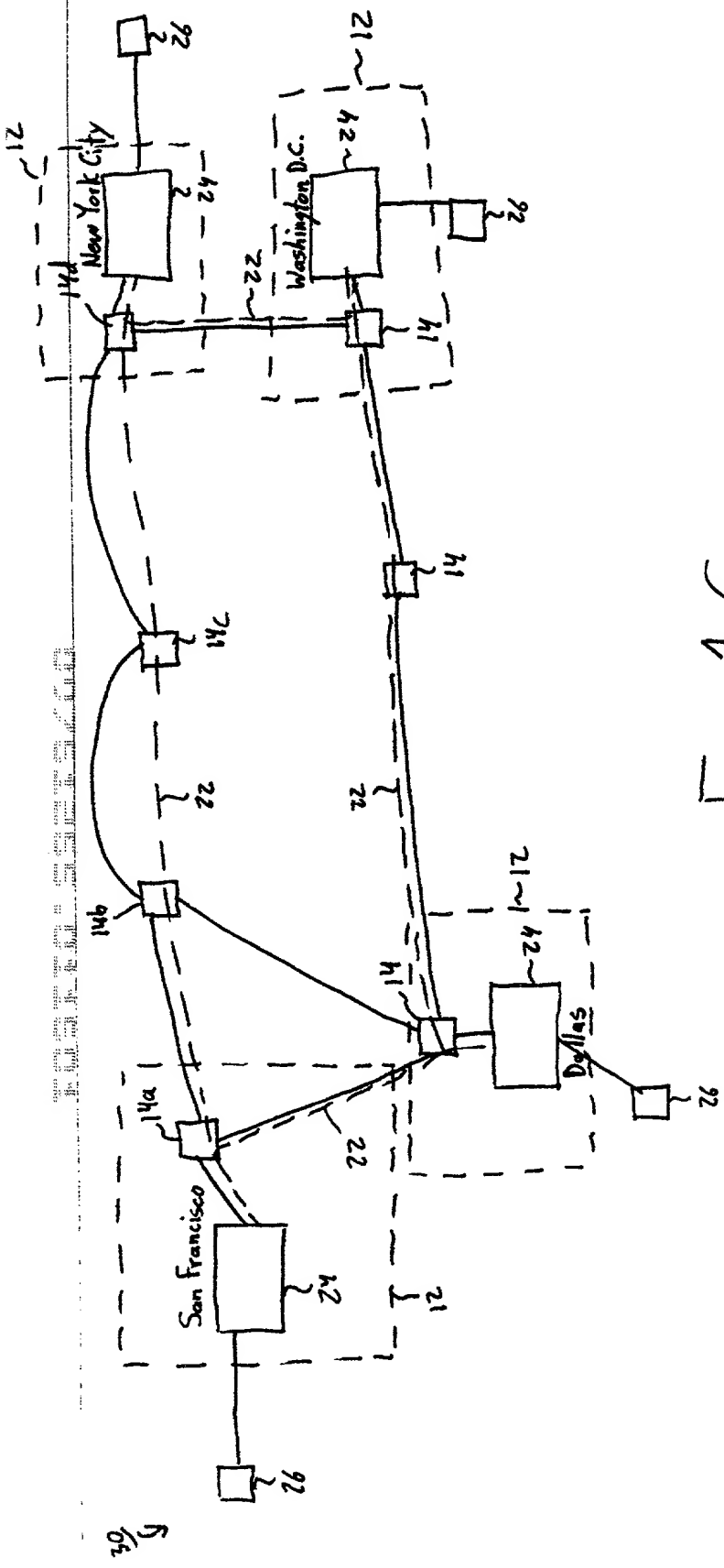


Fig. 1B

Fig 1C



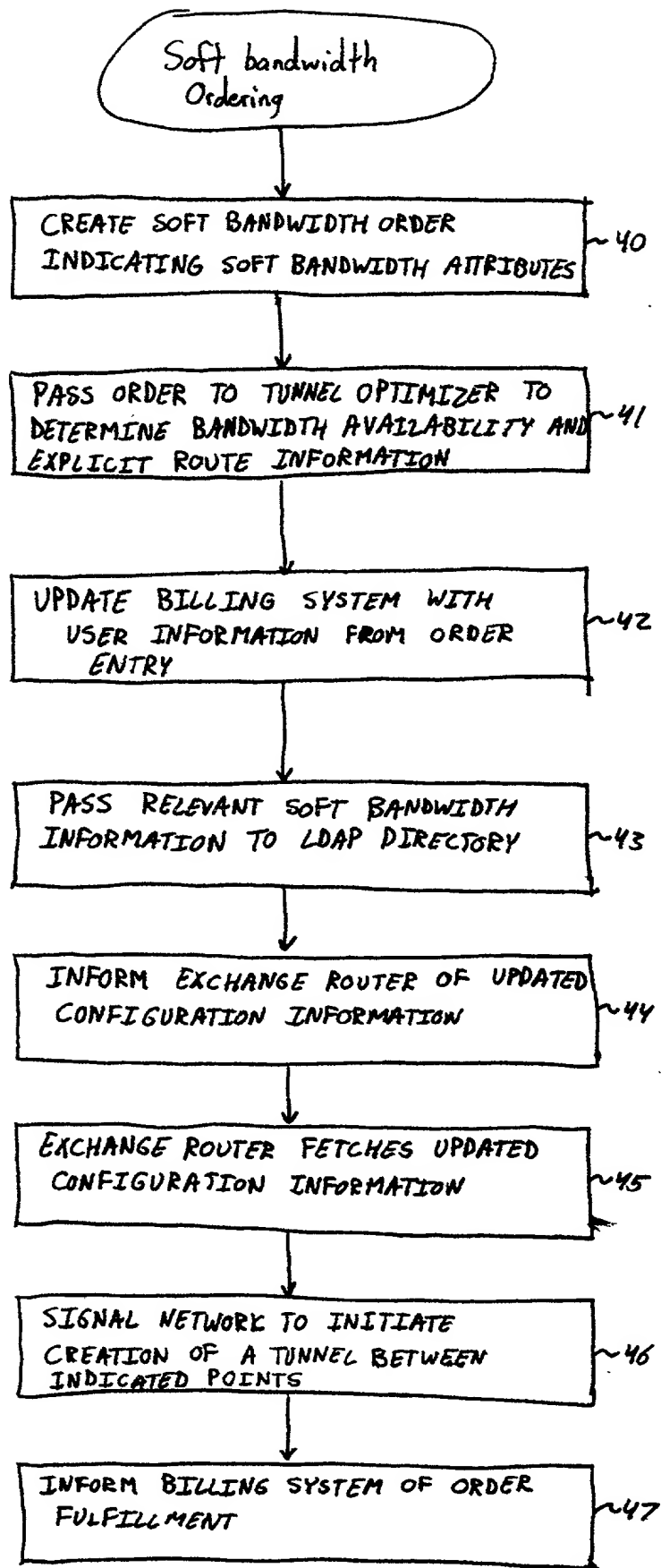


Fig. 2

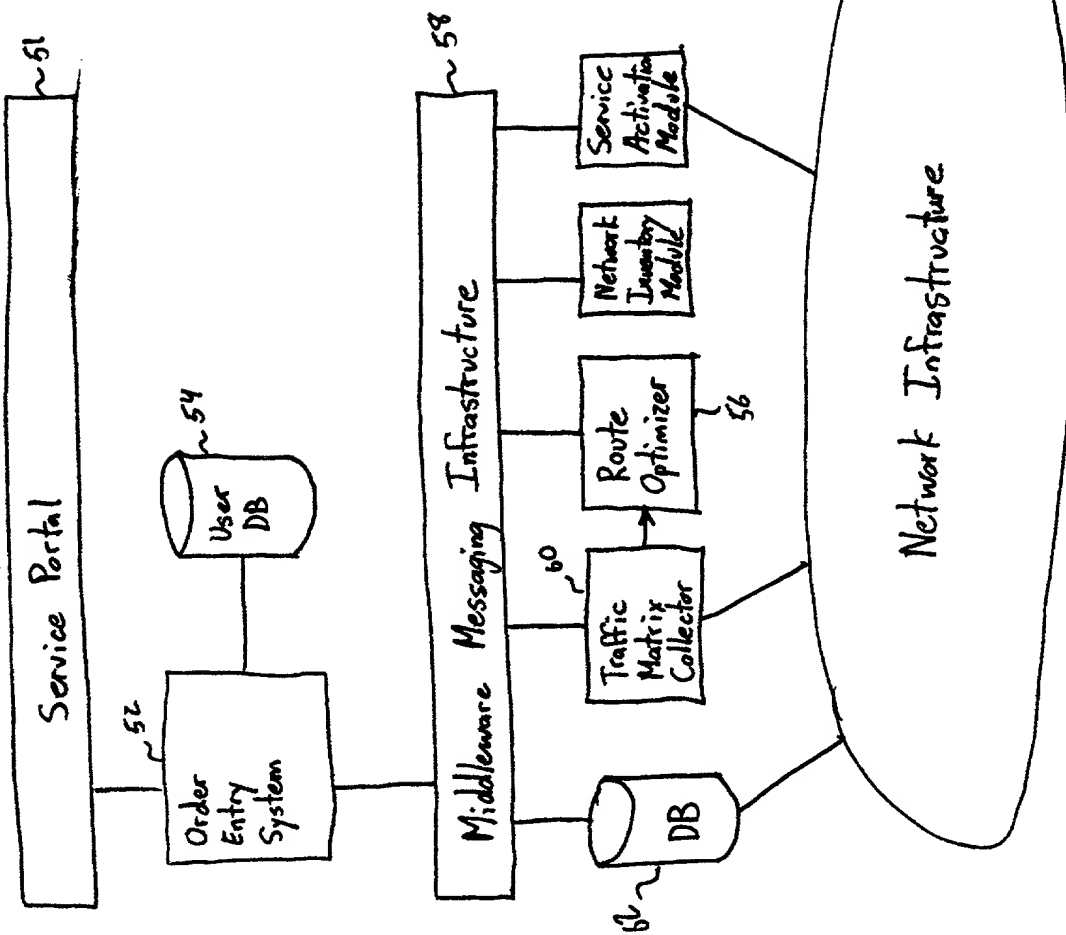


Fig. 3.

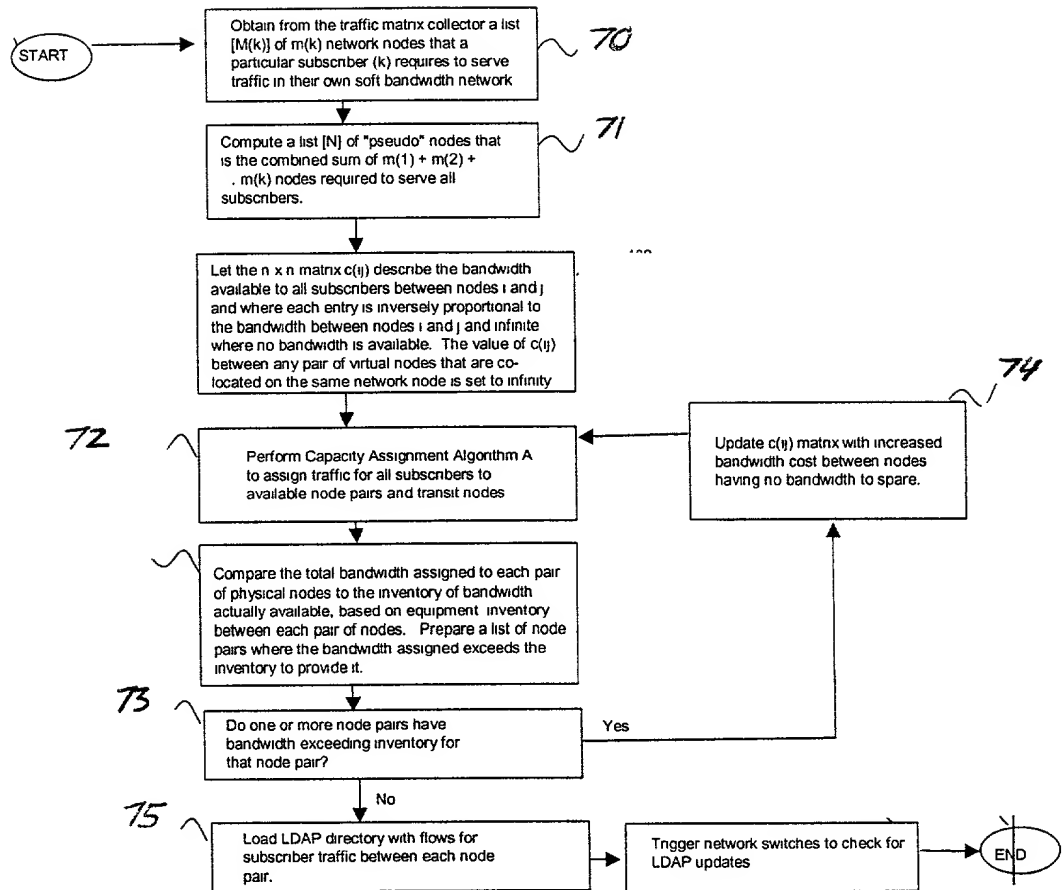


Fig 4

80  
↓

**Input:**

A list [N] of n network nodes having adequate equipment inventory to serve originating traffic and via traffic.

An  $n \times n$  matrix  $[c(ij)]$  where each entry in the matrix is inversely proportional to the service bandwidth available between nodes i and j. Where there are no communications facilities directly connecting nodes i and j, the cost  $c(ij)$  is set to infinite.

**Algorithm:**  
(Floyd-Warshall, 1962)

```

begin
  for all i not equal to j do  $d[ij] = c[ij]$ ;
  for i = 1,...,n do  $d[ii] = \text{infinity}$ ;
  for j = 1,...,n do
    {
      for i = 1,...,n, except  $i=j$  do
        {
          for k = 1,...,n, except  $k=j$  do
            {
               $d[ik] = \min\{d[ik], d[ij] + d[jk]\}$ 
              if  $d[ik] > d[ij] + d[jk]$ 
                {
                   $e[ik] = j$ 
                }
              else
                {
                   $e[ik] = 0$ 
                }
            }
          }
        }
      }
    }
  end

```

**Output:**

The route that a particular demand between any two points i and j may be found by looking up intermediate transit nodes found as values at the intersection of row i and column j in the  $n \times n$  matrix  $e[ij]$ .

Fig. 5

Fig. 6

90

Untitled Document - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search History Favorites

Address C:\Documents and Settings\west\Desktop\TMP67pmi79oe5.htm

Links COBRAND Register.com - Domain Name Registration Services Bugzilla Main Page ECard Configuration

### IP Network Soft Bandwidth Ordering System

Customer Name Advanced ISP Services 92

Customer Billing Account Number ISP-72143 94

Ingress Location

New York City (0001) 1  
New York City (0002) 2  
Chicago (0005) 3

95a

Router

Egress Location

New York City (0001) 1  
New York City (0002) 2  
Chicago (0005) 3

95b

Port

1.5 MBPS 1  
3.0 MBPS 2  
OC-1 3  
OC-3 4

96

Assured Connection Bandwidth

Quality of Service

Best Effort 1  
Virtual Leased Line 2

97

Restoration Strategy

Global Repair 1  
Explicit 2  
Constraint-based 3

98

Tunnel Implementation Method

Submit

99

Done My Computer



10

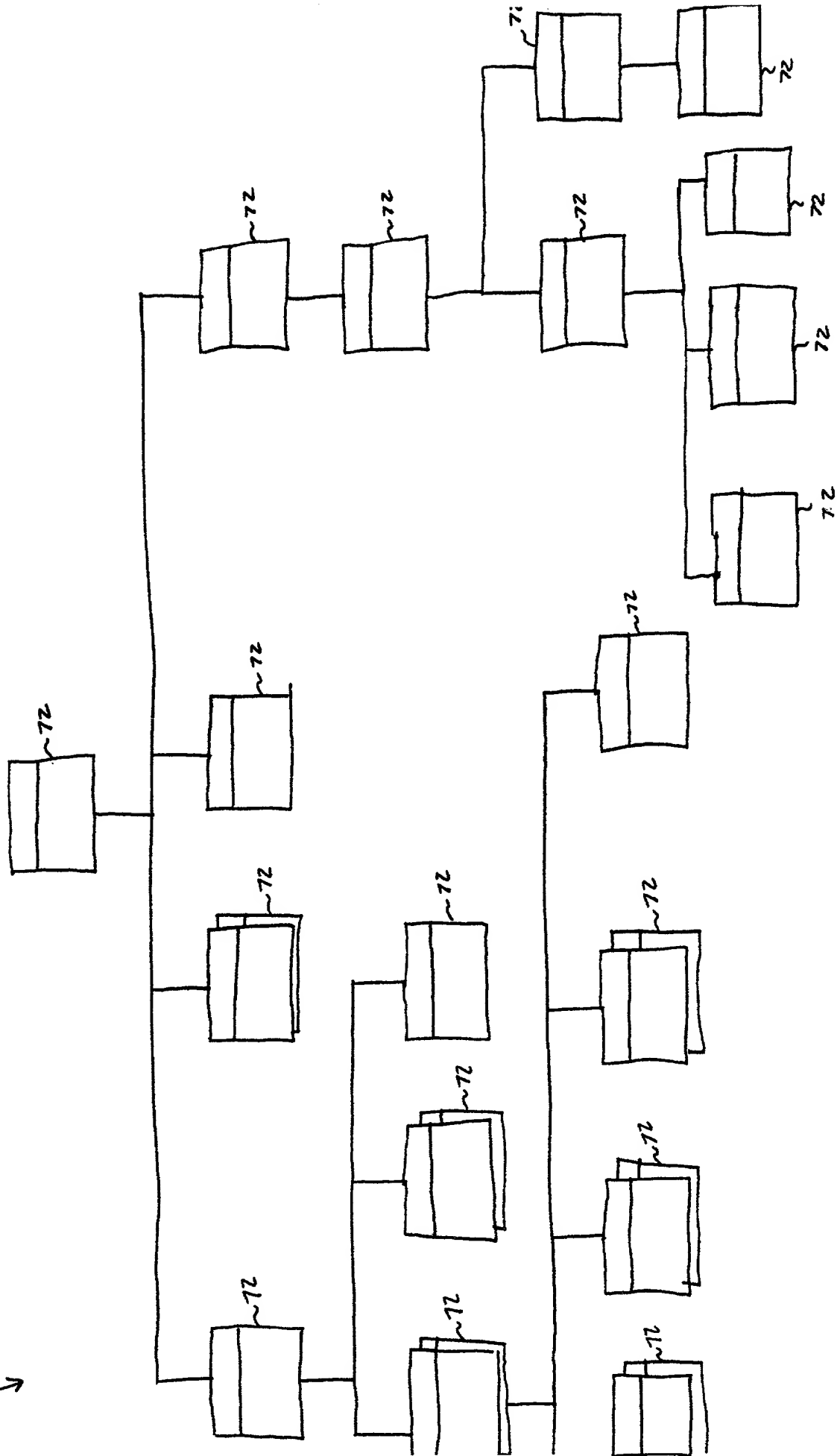


Fig. 7

RDN

$C=US$

$O=o1$

$OU=ou1$

$uid=v1$

DN

$C=US$

$O=o1, C=US$

$OU=ou1, O=o1, C=US$

$uid=v1, OU=ou1, O=o1, C=US$

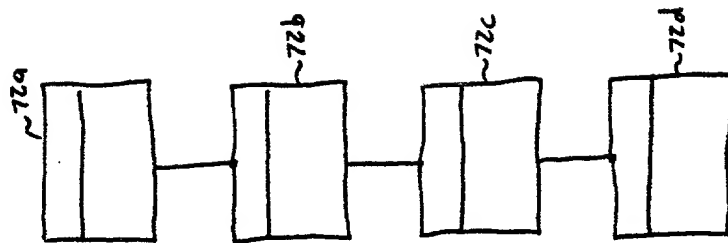
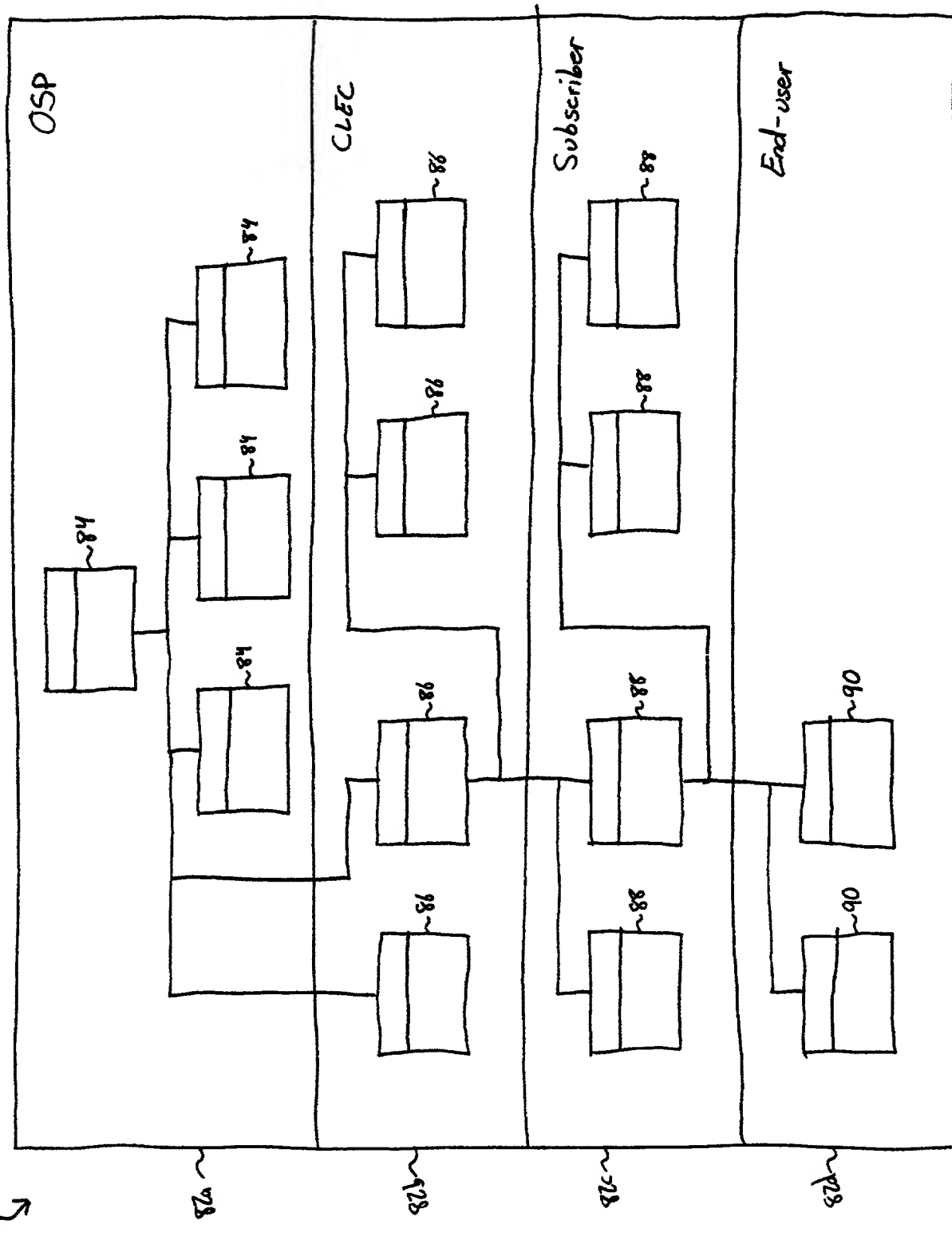


Fig. 8

Fig. 9



178.23.255.255

242

24a

port-a

14

LSP1

14

LSP2

14

14

24c

26c

12.23.45.255

Fig. 10